BLAUPUNKT

**AUTORADIO**
**Car radio**

**VW Beta**
**+ RP (rot/red)**
7 648 220 060

**Skoda Beta**
**+ RP (grün/green)**
7 648 221 064

**VW Beta (rot/red)**
7 648 222 060

**VW Beta Lupo**
7 648 224 060

**VW Beta T4 + RP ((rot/red)**
7 648 233 060

**VW Beta T4 (rot/red)**
7 648 235 060

**VW Beta DOT + RP (rot/red)**
7 648 234 060

**VW Beta DOT (rot/red)**
7 648 236 060

**VW Gamma + RP (rot/red)**
7 648 225 060

**VW Gamma (rot/red)**
7 648 227 060

**Skoda Gamma + RP**
**(grün/green)**
7 648 226 064

**VW New Beetle**
7 648 229 060

**VW Gamma Nokia**
**+ RP (rot/red)**
7 648 231 060

**VW Gamma Nokia**
**(rot/red)**
7 648 232 060

**VW Gamma T4 + RP**
**(rot/red)**
7 648 237 060

**VW Gamma T4**
**(rot/red)**
7 649 239 060

**8 622 401 985 BN 05/99**

**Serviceanleitung • Service Manual**

### (D) Weitere Dokumentationen

| | | | |
|---|---|---|---|
| Schaltbild | **Skoda Beta** | 221 **064**, | |
| | **VW Beta** | 220, 222, 224, 233 + 235 | 8 622 401 781 |
| Ersatzteilliste | **VW Beta** | 220, 222, 224 | 8 622 401 618 |
| Ersatzteilliste | **VW Beta** | 233 + 235 | 8 622 401 698 |
| Schaltbild | **VW Beta** | 234 + 236 | 8 622 401 833 |
| Ersatzteilliste | **VW Beta** | 234 + 236 | 8 622 401 813 |
| Schaltbild | **Skoda Gamma** | 226 **064**, | |
| | **VW Gamma** | 225, 231, 232, 232, 237 + 239 | 8 622 401 764 |
| Ersatzteilliste | **VW Gamma** | 225, 227 | 8 622 401 617 |
| Ersatzteilliste | **VW Gamma** | 226 **064** | 8 622 401 694 |
| Ersatzteilliste | **VW Gamma** | 231 + 232 | 8 622 401 686 |
| Ersatzteilliste | **VW Gamma** | 237 + 239 | 8 622 401 804 |
| Schaltbild | **VW N.Beetle** | 229 | 8 622 401 764 |
| Ersatzteilliste | **VW N.Beetle** | 229 | 8 622 401 619 |

### (GB) Supplementary documentation

| | | | |
|---|---|---|---|
| Circuit Diagram | **Skoda Beta** | 221 **064**, | |
| | **VW Beta** | 220, 222, 224, 233 + 235 | 8 622 401 781 |
| Spare Part List | **VW Beta** | 220, 222, 224 | 8 622 401 618 |
| Spare Part List | **VW Beta** | 233 + 235 | 8 622 401 698 |
| Circuit Diagram | **VW Beta** | 234 + 236 | 8 622 401 833 |
| Spare Part List | **VW Beta** | 234 + 236 | 8 622 401 813 |
| Circuit Diagram | **Skoda Gamma** | 226 **064**, | |
| | **VW Gamma** | 225, 227, 231, 232, 237+ 239 | 8 622 401 764 |
| Spare Part List | **VW Gamma** | 225, 227 | 8 622 401 617 |
| Spare Part List | **VW Gamma** | 226 **064** | 8 622 401 694 |
| Spare Part List | **VW Gamma** | 231 + 232 | 8 622 401 686 |
| Spare Part List | **VW Gamma** | 237 + 239 | 8 622 401 804 |
| Circuit Diagram | **VW N.Beetle** | 229 | 8 622 401 764 |
| Spare Part List | **VW N.Beetle** | 229 | 8 622 401 619 |

## (D) Bedienhinweise

### Ein-/Ausschalten

**Einschalten:**

Drücken Sie den Knopf (10).

**Ausschalten:**

Drücken Sie den Knopf (10) nochmal.

## (GB) Operating instructions

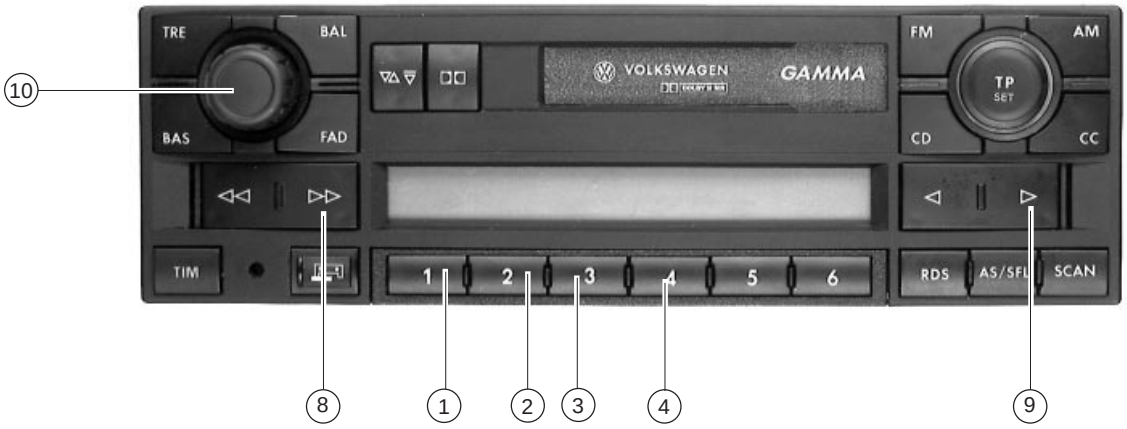
### Switching on/off

**Switching on:**

Press button (10).

**Switching off:**

Press button (10) once again.




### Eingeben der Code-Nummer

Nach dem Einschalten erscheint im Display die Anzeige:

"SAFE".

Nach 3 Sekunden erscheint die Anzeige

"1000".

**Beispiel:**

Die einzugebende Code-Nummer lautet **9 1 4 1**

Drücken Sie **9 x** die Stationstaste (1) → **9 0 0 0**
Drücken Sie **1 x** die Stationstaste (2) → **9 1 0 0**
Drücken Sie **4 x** die Stationstaste (3) → **9 1 4 0**
Drücken Sie **1 x** die Stationstaste (4) → **9 1 4 1**

Zum Bestätigen des 4-stelligen Codes drücken Sie die Taste (8) oder (9) länger als 2 Sekunden.

Wenn die falsche Code-Nummer eingegeben wurde erscheint der Schriftzug **"SAFE".**

Der gesammte Vorgang kann nun wiederholt werden.

Nach jeder weiteren Fehleingabe der Code-Nummer ist das Gerät für eine Stunde gesperrt und muß eingeschaltet bleiben.

### Entering the code number

After power-up the display shows:

"SAFE".

After 3 seconds the following appears

"1000".

**Example:**

The code number might be **9 1 4 1**

Press preset button (1) nine times → **9 0 0 0**
Press preset button (2) once → **9 1 0 0**
Press preset button (3) four times → **9 1 4 0**
Press preset button (4) once → **9 1 4 1**

To confirm the 4-digit code, press key (8) or press key (9) more than 2 seconds.

If you have entered a wrong number, **"SAFE"** will appear in the display.

Repeat all steps to enter code again.

If you enter a wrong code again, the unit will shut down for one hour.The waiting time will elapse only if you keep the unit turned on.

## (D) Allgemeine Abgleich- und Einstellhinweise

Höhen - Einstellung ..... Mittelstellung
Bass - Einstellung ..... Mittelstellung
Fader - Einstellung ..... Mittelstellung
Balance - Einstellung ..... Mittelstellung

**Lautsprecheranschluß**

Der Lautsprecherausgang muß mit 4 Ω abgeschlossen sein.

**AM + FM - Abgleich:**

- Den AM- und FM-Abgleich müssen Sie durchführen, wenn bei einer Reparatur frequenzbestimmende Bauteile ausgetauscht oder verstellt wurden.Dazu müssen Sie das Autoradio teilweise demontieren.

**Abschirmung**

Der HF-Abgleich muß mit Unterdeckel erfolgen.

## (GB) Car radio alignment and settings

Treble adjustment ..... center position
Bass adjustment ..... center position
Fader adjustment ..... center position
Balance adjustment ..... center position

**Loudspeaker connections**

The loudspeaker output must be terminated with 4 Ω.

**AM + FM alignment:**

- The AM and FM alignment has to be carried out if components that determine the circuit's frequency have been replaced or detuned. A disassembly in part will be necessary.

**Radio-shielding**

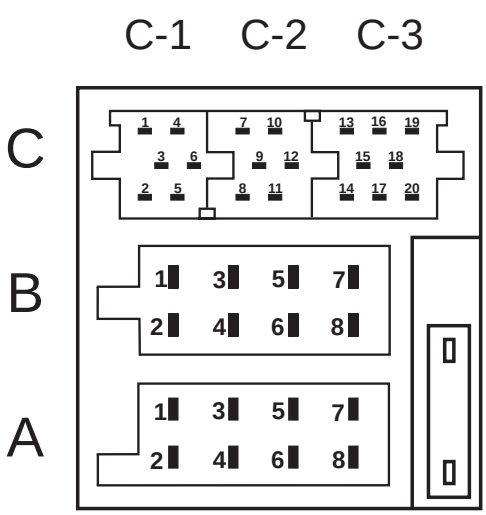
The r-f alignment has to be performed with the bottom cover in place.

## Belegung des Anschlußkästchens

## Pinning of terminal box

| A | | B | |
|---|---|---|---|
| 1 | Gala | 1 | Lautspr. / Speaker Out (RR) + |
| 2 | Externer Mute / external mute | 2 | Lautspr. / Speaker Out (RR) - |
| 3 | K - Bus | 3 | Lautspr. / Speaker Out (RF) + |
| 4 | S - Kontakt (KL 15) | 4 | Lautspr. / Speaker Out (RF) - |
| 5 | Code + 12V | 5 | Lautspr. / Speaker Out (LF) + |
| 6 | Beleuchtung / Illumination | 6 | Lautspr. / Speaker Out (LF) - |
| 7 | Dauerplus / permanent voltage (KL 30) | 7 | Lautspr. / Speaker Out (LR) + |
| 8 | Masse / Ground | 8 | Lautspr. / Speaker Out (LR) - |

| C | | | | | |
|---|---|---|---|---|---|
| **C1** | | **C2** | | **C3** | |
| 1 | Line Out left rear (LR) | 7 | Telefon NF minus / AF phone minus | *** 13** | **CD-Changer Data In** |
| 2 | Line Out right rear (RR) | *** 8** | **Ext.Display Clock** | *** 14** | **CD-Changer Data Out** |
| 3 | Line Out Ground | *** 9** | **Ext.Display Data** | *** 15** | **CD-Changer Clock** |
| 4 | Line Out left front (LF) | *** 10** | **Ext.Display Ena** | *** 16** | **CDC +12 V / +12 V CDC permanent** |
| 5 | Line Out right front (RF) | 11 | Fernbedienung / Remote control | *** 17** | **+12 V geschaltet / +12 V switched** |
| 6 | +12 V geschaltet / +12 V switched | 12 | Telefon NF plus / AF phone plus | *** 18** | **Changer Masse / Changer Ground** |
| | | | | *** 19** | **Changer AF input (L)** |
| | | | | *** 20** | **Changer AF input (R)** |




| * Nur Gamma + New Beetle | * Only Gamma + New Beetle |
|---|---|

| Position<br>Position<br>Position<br>Posición | Bezeichnung<br>Designation<br>Dénomination<br>Denominación | | Bestell-Nr.<br>Part no.<br>No. de Commande<br>Número de pedido |
|---|---|---|---|
| | **SCHALTERPLATTE,<br>SWITCH BOARD,<br>PLAQUE D' INTERRUPT,<br>PLACA DE INTERRUPT** | | |
| D 1000 | ST 62T80 | | 8 609 500 120 |
| D 1001 | M 74 HC 174M | | 8 925 904 155 |
| H 1014 | LSM 670 | | 8 925 406 005 |
| H 1050<br>H 1059 | LB T 676 | | 8 925 406 001 |
| H 1062-<br>H 1089 | LSM 670 | | 8 925 406 005 |
| V 815 | BC 848 B | | 8 925 705 043 |
| V 1010 | BC 858 B | | 8 925 705 038 |
| V 1050 | BC 817-40 | | 8 925 705 177 |
| V 1051 | BC 846 B | | 8 925 705 229 |
| V 1052 | BC 858 B | | 8 925 705 038 |
| V 1053 | BC 848 B | | 8 925 705 043 |
| V 1054 | BC 817-40 | | 8 925 705 177 |
| V 1055 | BC 807-40 | | 8 925 705 266 |
| V 1057 | BC 846 B | | 8 925 705 229 |
| V 1058 | BZX 84/C3V9 | | 8 925 421 098 |
| V 1059 | BAW 56 | | 8 925 405 015 |
| V 1060 | BAV 70 | | 8 925 405 122 |
| V 1061 | BAW 56 | | 8 925 405 015 |
| V 1062 | BAV 70 | | 8 925 405 122 |
| V 1087 | BAV 99 | | 8 925 405 124 |
| V 1092 | BZX 84/C3V9 | | 8 925 421 098 |
| Z 1000 | 8 MHz | | 8 926 193 045 |
| Z 1001 | 32,768 kHz | | 8 926 193 059 |
| | **HAUPTPLATTE,<br>MAIN BOARD,<br>PLAQUETTE PRINCIPALE,<br>PLACA PRINCIPAL** | | |
| C 2000 | 2700 µF | | 8 943 490 365 |
| C 2001 | 2200 µF | | 8 943 490 130 |
| D 150 | SC 390253 FU | | 8 925 904 210 |
| D 800 | TMS 370 OP16B | | 8 609 500 101 |
| D 801 | M 92256 | ( .. 220 060) | 8 609 500 058 |
| D 801 | M 92256 | ( .. 222 060) | 8 609 500 058 |
| D 801 | M 92256 | ( .. 224 060) | 8 609 500 054 |
| D 802 | NM 25 C160 | ( .. 220 060) | 8 609 500 360 |
| D 802 | NM 25 C160 | ( .. 222 060) | 8 609 500 040 |
| D 802 | NM 25 C160 | ( .. 224 060) | 8 609 500 760 |
| D 1100 | HA 12198 F | | 8 925 904 132 |
| D 1400 | HCF 4066 | | 8 925 900 019 |
| D 1500 | RC 4558 | | 8 925 900 308 |
| D 1570 | RC 4558 | | 8 925 900 308 |
| D 1600 | TDA 7376 B | | 8 945 903 286 |

| Position<br>Position<br>Position<br>Posición | Bezeichnung<br>Designation<br>Dénomination<br>Denominación | Bestell-Nr.<br>Part no.<br>No. de Commande<br>Número de pedido |
|---|---|---|
| D 2000 | TLE 4269 | 8 925 904 244 |
| D 2010 | BSP 452 | 8 925 705 301 |
| D 2011 | L 4952 | 8 925 901 732 |
| D 2022 | L 78 M06 | 8 945 901 741 |
| D 2030 | BSP 452 | 8 925 705 301 |
| D 5100 | RC 4558 | 8 925 900 308 |
| D 5300 | MM 74 HC595M | 8 925 900 434 |
| D 5301 | M 74 HC 160M1R | 8 925 901 843 |
| D 5302 | MM 74 HC132MX | 8 925 900 136 |
| D 8200 | L 9637 | 8 925 904 219 |
| D 8280 | LM 258 D | 8 925 900 905 |
| L 100 | | 8 928 411 065 |
| L 101 | | 8 928 411 061 |
| L 102 | | 8 928 411 065 |
| L 103 | | 8 928 411 061 |
| L 153 | | 8 928 411 061 |
| L 156 | | 8 928 411 061 |
| L 158 | | 8 928 411 061 |
| L 160 | | 8 928 411 061 |
| L 161 | | 8 928 411 061 |
| L 180 | | 8 958 411 132 |
| L 801 | | 8 928 411 061 |
| L 802 | | 8 958 411 106 |
| L 809 | | 8 958 411 006 |
| L 810 | | 8 958 411 006 |
| L 894 | | 8 958 411 006 |
| L 896 | | 8 958 411 006 |
| L 897 | | 8 958 411 006 |
| L 899 | | 8 958 411 006 |
| L 2000 | | 8 948 411 065 |
| L 5301 | | 8 958 411 006 |
| L 8220 | | 8 958 411 006 |
| V 800 | BC 848 B | 8 925 705 043 |
| V 840 | BC 858 B | 8 925 705 038 |
| V 841 | BC 848 B | 8 925 705 043 |
| V 842 | BC 818-40 | 8 925 705 228 |
| V 880 | BC 848 B | 8 925 705 043 |
| V 881 | BAL 99 | 8 925 405 137 |
| V 890 | BC 858 B | 8 925 705 038 |
| V 895 | BAS 21 | 8 925 405 182 |
| V 900 | BC 858 C | 8 925 705 039 |
| V 901 | DTC 144 EK | 8 925 705 264 |
| V 915 | BAV 70 | 8 925 405 122 |
| V 931 | BC 858 B | 8 925 705 038 |
| V 932 | BC 848 B | 8 925 705 043 |
| V 990 | BC 858 C | 8 925 705 039 |
| V 991 | BAV 99 | 8 925 405 124 |
| V 992 | BC 848 B | 8 925 705 043 |
| V 1350 | BC 807-40 | 8 925 705 266 |
| V 1351 | DTC 144 EK | 8 925 705 264 |
| V 1352 | DTC 144 EK | 8 925 705 264 |
| V 1354 | RLR 4001 | 8 925 800 044 |
| V 1410 | DTC 144 EK | 8 925 705 264 |
| V 1411 | DTC 144 EK | 8 925 705 264 |
| V 1572 | BAV 99 | 8 925 405 124 |
| V 1574 | BAV 99 | 8 925 405 124 |
| V 1620 | BAL 99 | 8 925 405 137 |
| V 2000 | S 3 G | 8 925 405 023 |
| V 2002 | BAL 99 | 8 925 405 137 |

| Position<br>Position<br>Position<br>Posición | Bezeichnung<br>Designation<br>Dénomination<br>Denominación | Bestell-Nr.<br>Part no.<br>No. de Commande<br>Número de pedido |
|---|---|---|
| V 2003 | BAL 99 | 8 925 405 137 |
| V 2005 | S 1 B | 8 925 405 247 |
| V 2020 | BAL 99 | 8 925 405 137 |
| V 2030 | SS 14 | 8 925 405 323 |
| V 2040 | SS 14 | 8 925 405 323 |
| V 2080 | BC 848 B | 8 925 705 043 |
| V 2081 | BC 858 B | 8 925 705 038 |
| V 2082 | BC 848 C | 8 925 705 037 |
| V 2083 | BC 848 C | 8 925 705 037 |
| V 2084 | BC 858 B | 8 925 705 038 |
| V 2085 | FMMT 493 | 8 925 705 192 |
| V 2095 | BC 848 C | 8 925 705 037 |
| V 2100 | BC 848 C | 8 925 705 037 |
| V 2101 | BC 848 C | 8 925 705 037 |
| V 2102 | BAV 70 | 8 925 405 122 |
| V 2103 | BAV 70 | 8 925 405 122 |
| V 2104 | BC 858 C | 8 925 705 039 |
| V 2105 | BC 848 B | 8 925 705 043 |
| V 2300 | BC 858 B | 8 925 705 038 |
| V 2303 | BAS 21 | 8 925 405 182 |
| V 2701 | BC 848 B | 8 925 705 043 |
| V 2702 | BAL 99 | 8 925 405 137 |
| V 5000 | BZX 84/C5V6 | 8 925 421 037 |
| V 5300 | BZX 84/C5V6 | 8 925 421 037 |
| V 5303 | BZX 84/C5V6 | 8 925 421 037 |
| V 8200 | BC 808-25 | 8 925 705 042 |
| V 8210 | BAL 99 | 8 925 405 137 |
| V 8211 | BC 846 B | 8 925 705 229 |
| V 8212 | BC 856 B | 8 925 705 140 |
| V 8214 | BZX 84/C30 | 8 925 421 074 |
| V 8215 | BAL 99 | 8 925 405 137 |
| V 8230 | BC 808-25 | 8 925 705 042 |
| V 8232 | BZX 84/C18 | 8 925 421 059 |
| V 8250 | BZX 84/C18 | 8 925 421 059 |
| V 8281 | BAW 56 | 8 925 405 015 |
| V 8282 | BAV 70 | 8 925 405 122 |
| V 8285 | BZX 84/C4V7 | 8 925 421 061 |
| V 8291 | BAW 56 | 8 925 405 015 |
| V 8292 | BAV 70 | 8 925 405 122 |
| V 8295 | BZX 84/C4V7 | 8 925 421 061 |
| | | |
| Z 156 | 28,4961 MHz | 8 926 193 066 |
| Z 800 | 19,67 MHz | 8 926 193 062 |
| | **HF - PLATTE,<br>HF BOARD,<br>PLAQUETTE HF,<br>PLACA HF** | **8 635 123 130** |
| | | |
| D 1 | TY 38477 | 8 925 904 301 |
| | | |
| L 3 | | 8 948 419 072 |
| L 50 | | 8 958 411 133 |
| L 51 | | 8 948 419 073 |
| L 52 | | 8 958 411 000 |
| L 53 | | 8 958 411 106 |
| L 54 | | 8 948 419 073 |

| Position<br>Position<br>Position<br>Posición | Bezeichnung<br>Designation<br>Dénomination<br>Denominación | Bestell-Nr.<br>Part no.<br>No. de Commande<br>Número de pedido |
|---|---|---|
| L 600 | | 8 958 411 106 |
| L 601 | | 8 958 411 158 |
| L 602 | | 8 958 411 152 |
| L 603 | | 8 958 411 152 |
| L 604 | | 8 958 411 152 |
| L 610 | | 8 958 411 169 |
| L 612 | | 8 958 411 102 |
| L 2080 | | 8 948 411 089 |
| | | |
| V 1 | BB 814 | 8 925 405 146 |
| V 50 | BB 814 | 8 925 405 146 |
| V 51 | BA 885 | 8 925 405 530 |
| V 52 | BF 999 | 8 925 705 280 |
| V 53 | BB 814 | 8 925 405 146 |
| V 600 | 2 SK 711BL | 8 925 705 176 |
| V 601 | 1 SV 172 | 8 925 405 318 |
| V 602 | S 247 Z | 8 925 421 079 |
| V 610 | BAT 18-05 | 8 925 405 526 |
| V 611 | BAV 70 | 8 925 405 122 |
| V 612 | BF 999 | 8 925 705 280 |
| | | |
| Z 100 | | 8 948 417 010 |
| Z 110 | | 8 926 193 211 |
| Z 600 | | 8 926 193 048 |

**Hinweis:**
Handelsübliche Kondensatoren und Widerstände sind in der Ersatzteilliste nicht aufgeführt. Wir bitten Sie, diese Teile im Fachhandel zu beziehen.

**Nota:**
Des condensateurs et résistaces commerciaux ne sont pas inclus dans la liste des pièces détachées. Veuillez acheter ces pièces chez votre spècialiste.

**Note:**
Capacitors and resistors usual in trade are not mentioned in the spare parts list. Kindly buy these parts from the specialized trade.

**Nota:**
No se indican en la lista de piezas de repuestos los condensatores y los resistores de uso comercial. Les rogamos comprar esas piezas en el comercio especializado.

**Blaupunkt-Werke GmbH, Hildesheim**

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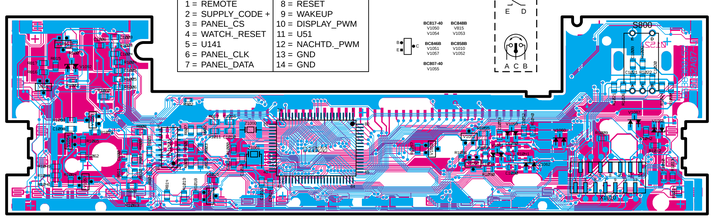
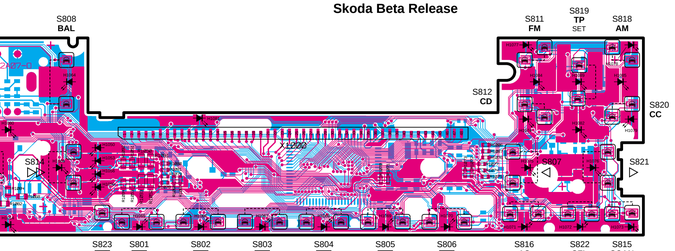
38100 Braunschweig

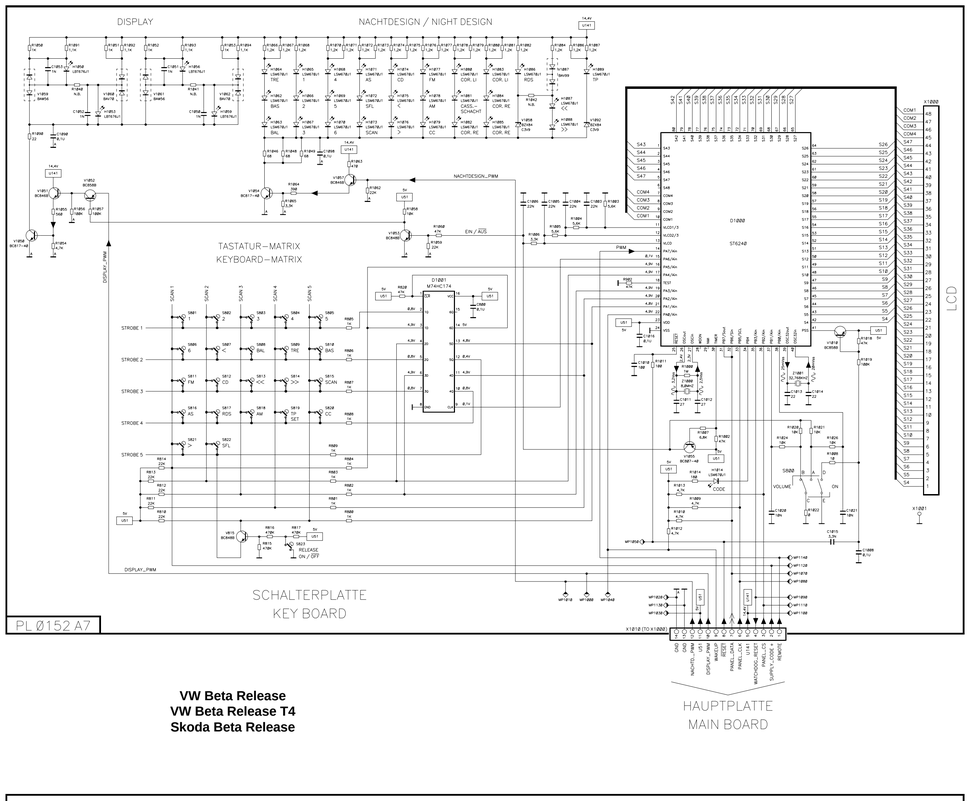
**Schalterplatte**
**Key board**
**PL 0152 A07**
**+ Chip**

| X1010 (TO X1000) | |
|---|---|
| 1 = REMOTE | 8 = RESET |
| 2 = SUPPLY_CODE + | 9 = WAKEUP |
| 3 = PANEL_CS | 10 = DISPLAY_PWM |
| 4 = WATCH_RESET | 11 = US1 |
| 5 = U141 | 12 = NACHTD._PWM |
| 6 = PANEL_CLK | 13 = GND |
| 7 = PANEL_DATA | 14 = GND |




**VW Beta Release**
**VW Beta Release T4**
**Skoda Beta Release**




**VW Beta Release**
**VW Beta Release T4**
**Skoda Beta Release**

**Schalterplatte**
**Key board**
**PL 0163 A07**
**+ Chip**

| X1010 (TO X1000) | |
|---|---|
| 1 = REMOTE | 8 = RESET |
| 2 = SUPPLY_CODE + | 9 = WAKEUP |
| 3 = PANEL_CS | 10 = DISPLAY_PWM |
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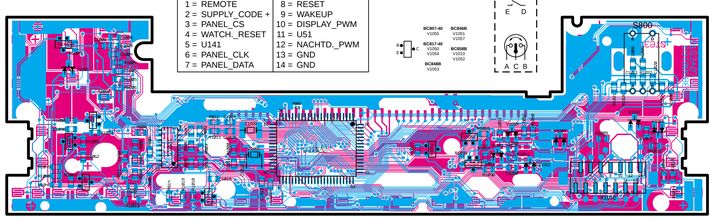
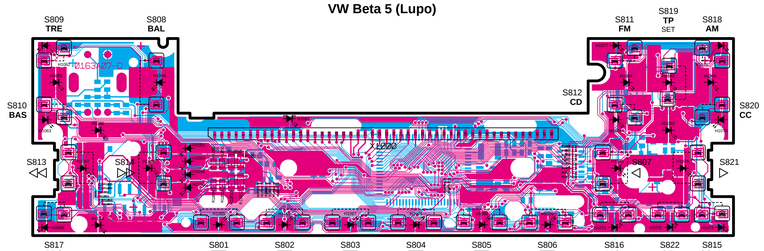
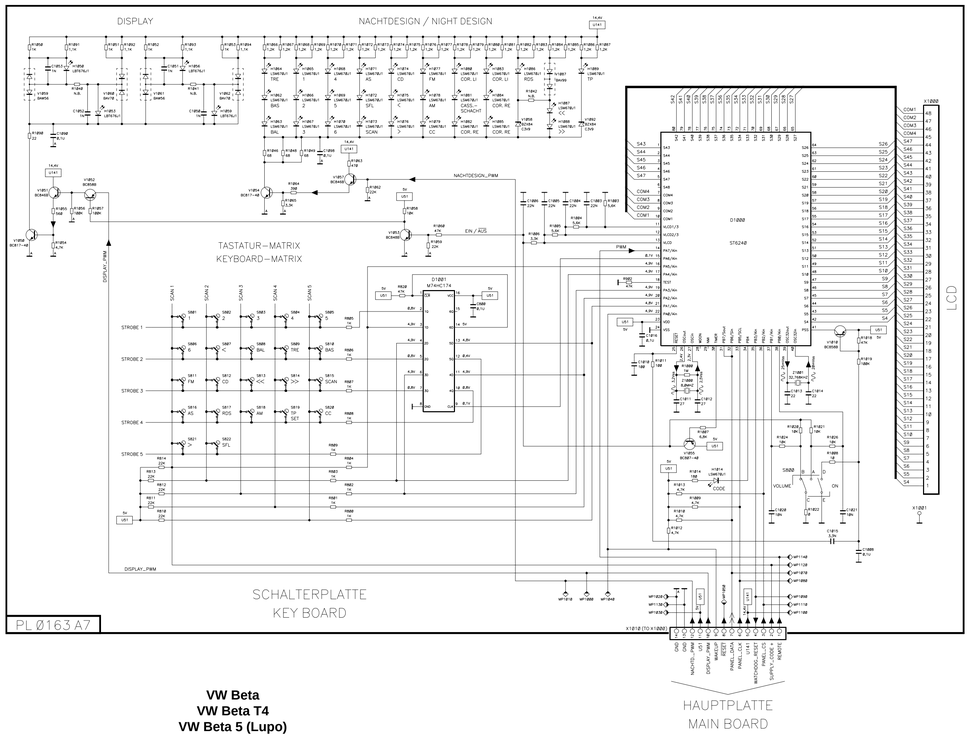
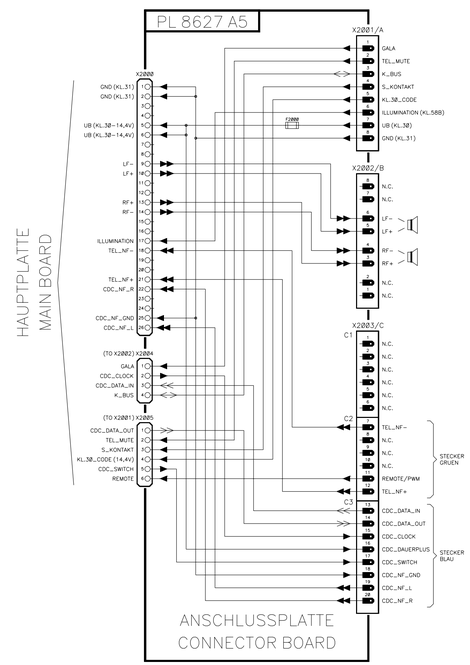



**VW Beta**
**VW Beta T4**
**VW Beta 5 (Lupo)**




**VW Beta**
**VW Beta T4**
**VW Beta 5 (Lupo)**




**BLAUPUNKT** **AUTORADIO**

**Skoda Beta**
7 648 223 060

**Skoda Beta Release**
7 648 221 064

**Seat Elba**
7 640 234 366

**VW Beta**
7 648 222 060

**VW Beta T4**
7 648 235 060

**VW Beta Release**
7 648 220 060

**VW Beta Release T4**
7 648 221 064

**VW Beta 5 (Lupo)**
7 648 224 060

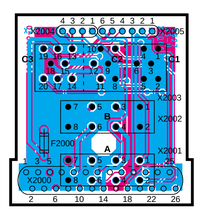
8 622 401 781 BN-WG 09/98

**Schaltbild • Circuit diagram**

**Anschlußplatte**
**Connector board**
**PL 8627 A05**

| X2004 (TO 2002) |
|---|
| 1 = GALA |
| 2 = CDC_CLOCK |
| 3 = CDC_DATA_IN |
| 4 = K_BUS |

| X2005 (TO 2001) |
|---|
| 1 = CDC_DATA_OUT |
| 2 = TEL_MUTE |
| 3 = S_KONTAKT |
| 4 = KL.30_CODE |
| 5 = CDC_SWITCH |
| 6 = REMOTE |




| X2000 |
|---|
| 1 = GND (KL.31) |
| 2 = GND (KL.31) |
| 3 = N.C. |
| 4 = N.C. |
| 5 = UB (KL.30 - 14,4V) |
| 6 = UB (KL.30 - 14,4V) |
| 7 = N.C. |
| 8 = N.C. |
| 9 = LF– |
| 10 = LF+ |
| 11 = N.C. |
| 12 = N.C. |
| 13 = RF+ |
| 14 = RF– |
| 15 = N.C. |
| 16 = N.C. |
| 17 = ILLUMINATION |
| 18 = TEL_NF– |
| 19 = N.C. |
| 20 = N.C. |
| 21 = TEL_NF+ |
| 22 = CDC_NF_R |
| 23 = N.C. |
| 24 = N.C. |
| 25 = CDC_NF_GND |
| 26 = CDC_NF_L |

TUNER

ANTENNE +14V
POSITIVE VOLTAGE ANTENNA

SPANNUNGSANGABEN FUER 015ø
AM fo = 999 KHz
FM fo = 97,1 MHz
Mess-Sender: E = 68 dB/uV
U_BAT = 14,4 V

DIGITALE SIGNALVERARBEITUNG
DIGITAL SIGNAL CONTROLLER

CD-VORVERSTAERKER
CD-PREAMPLIFIER

TELEFON-NF-VERSTAERKER
TELEPHONE-AF-AMPLIFIER

TB-VORVERSTAERKER
TAPE-PREAMPLIFIER

MOTOR-STEUERUNG

MAGNET-STEUERUNG

TELEFON-NF UMSCHALTUNG

FEATURE PROM

EEPROM

SPANNUNGSVERSORGUNG
POWER SUPPLY
PLL / AM / FM / NF

DIAGNOSE LAUTSPRECHER
DIAGNOSIS LOUDSPEAKER

NF-VORSTUFE

NF-VORSTUFE
AF-PREAMPLIFIER

NF-ENDSTUFE
AF-AMPLIFIER
2 x 20W

CD-CHANGER-INTERFACE

DIAGNOSE KL.30

ENTLADE-SCHALTUNG

CODE +

FERNBEDIENUNG
REMOTE CONTROL

CD-CHANGER-ON

DIMMUNG / ILLUMINATION

S-KONTAKT

TELEFON-MUTE

GALA

DIAGNOSE INTERFACE (K-BUS)
DIAGNOSIS INTERFACE (K-BUS)

SCHALTERPLATTE
KEY BOARD

ANSCHLUSSPLATTE
CONNFCTOR BOARD

SIGNAL-LINE
NF-/AF-LINE
>> DATA-LINE
<> DATA-LINE
* = NICHT BESTUECKT

## CC 481

Referenz
Test
Clock
µC Inetrface
RDS
Audio - Processor
Audio A/D - Wandler
PLL
ZF - A/D - Wandler
Mixer
IF - Filter
Demodulator
MPX - Processor
Audio - D/A - Wandler
Bus Controller

| | | | |
|---|---|---|---|
| TCLK | 6 | 60 | IFP |
| TMS | 5 | 61 | IFN |
| TDI | 4 | 59 | REFP2 |
| TDO | 3 | 62 | REFN2 |
| TDI1 | 31 | 2,32 | VDD |
| TDO1 | 34 | 1,8,33 | VSS |
| CLK1 | 19 | 35 | VDDPL |
| CLK2 | 20 | 36 | VSSPL |
| XTAL0 | 21 | 57 | VDDR |
| XTAL0 | 22 | 58 | VSSR |
| PWDN | 9 | 64 | VDDIF |
| RESN | 10 | 63 | VSSIF |
| | | 48 | VDDA |
| CSN | 12 | 49 | VSSA |
| SCPRX | 13 | 41 | VDDO |
| SCPTX | 14 | 42 | VSSO |
| SCPCK | 15 | 16 | VDDIO |
| | | 17 | VSSIO |
| IRQN | 11 | 24 | SCK1 |
| | | 23 | SWS1 |
| | | 22 | SDA1 |
| AUXR | 56 | 27 | SCK2 |
| CCR | 55 | 26 | SWS2 |
| AGND | 54 | 25 | SDA2 |
| CCL | 53 | 30 | SCK0 |
| AUXL | 52 | 29 | SWS0 |
| REFP3 | 50 | 28 | SDA0 |
| REFN3 | 51 | 43 | RRO |
| | | 44 | RFO |
| CAPP | 40 | 45 | LFO |
| CAPN | 39 | 47 | LRO |
| | | 46 | OGND |
| | | 37 | REFP1 |
| | | 38 | REFN1 |

## Pin-Belegung des IC D150
## Digital IC D150 Pin Configuration

| Pin No. | I/O | Name | Funktion | Function |
|---|---|---|---|---|
| 1 | - | VSS | Masse | Ground |
| 2 | - | VDD | 5 V | 5 V |
| 4 | I | TDI | Testdateneingang | Test Data Input |
| 5 | I | TMS | Test Mode | Testmode |
| 6 | I | TCKL | Test Clock | Testclock |
| 7 | - | VDD | 5 V | 5 V |
| 8 | - | VSS | Masse | Ground |
| 9 | - | PWDN | Power down Zustand | Power down Mode |
| 10 | I | RESN | Reset | Hardware reset (active LOW) |
| 11 | O | IRQN | RDS Alarm/SLS | RDS alarm/search stop |
| 12 | I | CSN | Chip select Eingang | Chip select µC interface |
| 13 | I | SCPRX | Serielle Daten µC Interface | Serial data µC interface IN |
| 14 | O | SCPTX | Serielle Daten µC Interface | Serial data µC interface OUT |
| 15 | I | SCPCK | Clock µC Interface | Clock µC interface |
| 16 | - | VDDIO | Pluspannung Digitale Ein-/Ausgänge | Voltage for digital I/O |
| 17 | - | VSSIO | Masse Digitale Ein-/Ausgänge | Ground for digital I/O |
| 18 | O | CKL1 | Programmierbarer Clock 1 | Programmable clock 1 |
| 20 | I | XTAL | 28,5 MHz Oszillator | Oscillator 28,5 MHz |
| 21 | O | XTALO | 28,5 MHz Oszillator | Oscillator 28,5 MHz |
| 31 | I | TDI1 | Testdateneingang 1 | Test Input 1 |
| 32 | - | VDD | 5 V | 5 V |
| 33 | - | VSS | Masse | Ground |
| 35 | - | VSSPLL | Masse (Minus) PLL | Ground (minus) PLL |
| 36 | - | VDDPLL | Plus PLL 5V | PLL 5V (pos.) |
| 37 | O | REFP1 | Audio D/A-Wandler Positive Referenz | Audio D/A converter (pos. reference) |
| 38 | O | REFN1 | Audio D/A-Wandler Negative Referenz | Audio D/A converter (neg. reference) |
| 39 | - | CAPN | PLL Kapazität (negativ) | PLL capacity (neg.) |
| 40 | - | CAPP | PLL Kapazität (positiv) | PLL capacity (pos.) |
| 41 | - | VDDO | Audio D/A - Wandler 5V | Audio D/A converter (+5V) |
| 42 | - | VSSO | Audio D/A - Wandler Masse | Audio D/A converter (ground) |
| 44 | O | RFO | Audio Rechts (analog) | Analogic audio right |
| 45 | - | OGND | Masse Analogausgänge | Ground |
| 46 | - | LFO | Audio Links (analog) | Analogic audio left |
| 48 | - | VDDA | 5V A/D - Wandler | 5V A/D - converter |
| 49 | - | VSSA | Masse A/D - Wandler | Ground A/D - converter |
| 50 | O | REFP3 | Audio D/A-Wandler Positive Referenz | Audio D/A converter (pos. reference) |
| 51 | O | REFN3 | Audio D/A-WandlerNegative Referenz | Audio D/A converter (neg. reference) |
| 52 | I | AUXL | Externer Eingang links | Auxillary left |
| 53 | I | CCL | Cassette Eingang links | Cassette input left |
| 54 | - | AGND | Audioeingänge Masse | Ground for Audio inputs |
| 55 | I | CCR | Cassette Eingang rechts | Cassette input right |
| 56 | I | AUXR | Externer Eingang rechts | Auxillary left right |
| 57 | - | VDDR | 5 V | 5 V |
| 58 | - | VSSR | Masse | Ground |
| 59 | O | REFP2 | Audio D/A-Wandler Positive Referenz | Audio D/A converter (pos. reference) |
| 60 | I | IFP | ZF Eingang (plus) | Positif IF input |
| 61 | I | IFN | ZF Eingang (minus) | IF input (neg.) |
| 62 | O | REFN2 | Audio D/A-Wandler Negative Referenz | Audio D/A converter (neg. reference) |
| 63 | - | VSSIF | ZF A/D - Wandler (minus) | IF A/D converter (-) |
| 64 | - | VDDIF | ZF A/D - Wandler 5 V | IF A/D converter (+5V) |

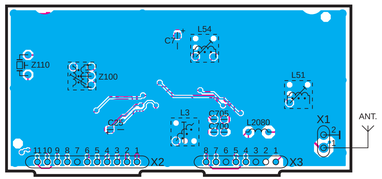
## Pin-Belegung des FM/AM Tuner-IC D1
## Tuner IC D1 Pin configuration

| Pin No. | I/O | Name | Funktion | Function |
|---|---|---|---|---|
| 1 | - | MIXDEC | Mischer Entkopplung | Mixer decoupling |
| 2 | - | CINT | für PLL | for PLL |
| 3 | - | CHOLD | für PLL | for PLL |
| 4 | - | PLLGND | PLL - Masse | PLL Ground |
| 5 | - | VCC | 8,5V | 8,5V |
| 6 | - | VPLL | PLL top voltage | PLL top voltage |
| 7 | I | LFINP | Schleifenfiltereingang | PLL loop filter Input |
| 8 | O | LF1 | Schleifenfilter 1 | PLL loop filter Output 1 |
| 9 | O | LF2 | Schleifenfilter 2 | PLL loop filter Output 2 |
| 10 | O | LF3 | Schleifenfilter 3 | PLL loop filter Output 3 |
| 11 | - | VTUNE | Abstimmspannung | Tuning voltage |
| 12 | I | OSCINP | Oszillator Eingang | Oscillator Input |
| 13 | O | OSCOUT | Oszillator Ausgang | Oscillator Output |
| 14 | - | OSCGND | Oszillator Masse | Oscillator Ground |
| 15 | O | VCC | 8,5V | 8,5V |
| 16 | O | OSCBUF | Oszillatorausgangstreiber | Oscillator Buffer Output |
| 17 | I | DGND | Digitale Masse | Digital Ground |
| 18 | I | CS | Chip Select | Chip Select |
| 19 | I | RD | Dateneingang | DATA IN |
| 20 | I | CLK | Clock | Clock |
| 21 | O | TX | Datenausgang | DATA OUT |
| 22 | I | FREF | Referenzfrequenz | Reference frequency |
| 23 | - | IFAGC2 | ZF Regelspannung 2 | IF AGC 2 |
| 24 | O | IFOUT1 | ZF - Ausgang 1 | IF output 1 |
| 25 | O | IFOUT2 | ZF - Ausgang 2 | IF output 2 |
| 26 | - | IFAGC1 | ZF Regelspannung 1 | IF AGC 1 |
| 27 | - | IFGND | ZF Masse | IF Ground |
| 28 | I | IFIN | ZF Eingang | IF Input |
| 29 | - | VDC | Interne Referenzspannung | Internal reference voltage |
| 30 | - | VCC | 8,5V | 8,5V |
| 31 | O | MIXOUT2 | Mischerausgang 2 | Mixer Output 2 |
| 32 | O | MIXOUT1 | Mischerausgang 1 | Mixer Output 1 |
| 33 | - | AMREF | AM - Referenzeingang | AM reference Input |
| 34 | I | AMMIXIN | AM Mischereingang | AM Mixer Input |
| 35 | - | RFAGC3 | HF Regelzeitkonstante (auftregeln) | RF AGC 3 |
| 36 | O | RFAGCAM | HF Steuerspannung Vorstufe AM | RF AGC for AM input stage |
| 37 | O | RFAGCFM | HF Steuerspannung Vorstufe FM | RF AGC for FM input stage |
| 38 | - | MIXGND | Mischer Masse | Mixer Ground |
| 39 | - | RFAGC2 | HF Regelzeitkonstante (Detektor) | RF AGC 2 |
| 40 | - | RFAGC1 | HF Regelzeitkonstante (abregeln) | RF AGC 1 |
| 41 | - | ANGGND | Analog Masse | Analog ground |
| 42 | - | FMMIXREF | Referenzspannung FM Mischer | Reference voltage FM mixer |
| 43 | I | FMMIXINP | FM Mischer Eingang | FM mixer input |
| 44 | - | RFAGCD | AGC Entkopplung | AGC decoupling |

## Prüfdiagnose Tuner IC (D1)
## Diagnosis test tuner IC (D1)

| Pin | Band | Frequenz | E' | Uss | Vermerke | Notice |
|---|---|---|---|---|---|---|
| 24+25 (ZF-OUT) | FM | 97,1 MHz | 83 dbµV | 650 mVss | jewells gegen Masse | respective against GND |
| 28 | FM | 97,1 MHz | 80 dbµV | 25 mVss | | |
| 31+32 | FM | 97,1 MHz | 80 dbµV | 200 mVss | jewells gegen Masse | respective against GND |
| 31+32 | AM | 900 kHz | 80 dbµV | 200 mVss | jewells gegen Masse | respective against GND |
| 34 (AM-IN) | AM | 900 kHz | 80 dbµV | 50 mVss | | |
| 36 | AM | 900 kHz | ab 73 dbµV | | künstliche Antenne aus | not commutated |
| 37 | FM | 97,1 MHz | ab 80 dbµV | | | |

**HF-Platte**
**RF board**
**PL 0172 A04**




**X2 (TO A100)**

1 = CF400 / CS
2 = SPI_2_SIMO
3 = SPI_2_CLK
4 = SPI_2_SOMI
5 = F_REF
6 = UB5 (8,5V)
7 = GND
8 = IF–
9 = IF+
10 = U_AM (8,3V)
11 = N.C.

**X3 (TO A100)**

1 = MP_ANT
2 = N.C.
3 = GND
4 = +PHANTOM (14V)
5 = U_FM (8,4V)
6 = GND
7 = U_PLL (9,7V)
8 = MP_dU

**HF-Platte**
**RF board**
**PL 0172 A04**
**Chip**